

Unit 2 Practice Test #2

NAME Key

Period _____

1. Which of the following correctly describes the graph of $y = 3x - 2$

- A. The graph of this equation has a positive slope and a positive y-intercept.
- B. The graph of this equation has a negative slope and a negative y-intercept.
- C. The graph of this equation has a negative slope and a positive y-intercept.
- D. The graph of this equation has a positive slope and a negative y-intercept.

2. For a few months, Derrick recorded the amount of fluid ounces of laundry detergent remaining (y) after his family washed (x) loads of laundry. The equation is $y = -2x + 50$. Which statement correctly describes this situation?

- A. The amount of ounces left in the laundry detergent bottle decreases linearly.
- B. The amount of ounces left in the laundry detergent bottle increases linearly.
- C. The amount of ounces left in the laundry detergent bottle decreases exponentially.
- D. The amount of ounces left in the laundry detergent bottle increases exponentially.

3. Write the equation of the line that passes through the points $(-5, -4)$ and $(3, 12)$ in point slope form.

$$\frac{12 - (-4)}{3 - (-5)} = \frac{12 + 4}{8} = \frac{16}{8} = 2$$

$$y - (-4) = 2(x + 5)$$
$$y + 4 = 2(x + 5)$$

4. Write the equation of the line that passes through the points $(-5, -4)$ and $(3, 12)$ in slope intercept form.

$$2x + 10 - 4$$

$$y = 2x + 6$$

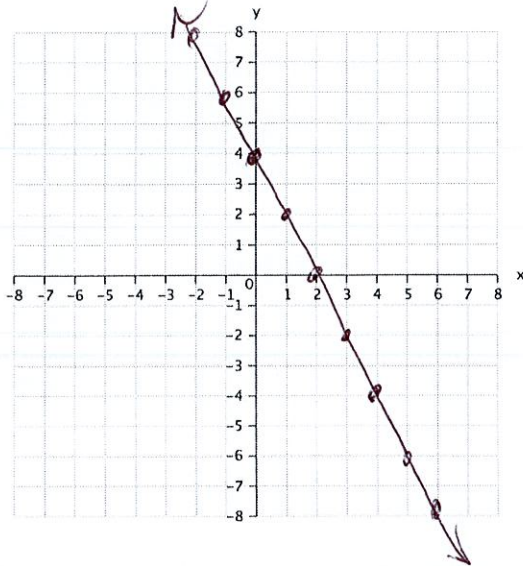
5. Find the equation of the line that has an undefined slope and passes through the point $(-2, 5)$.

$$x = -2$$

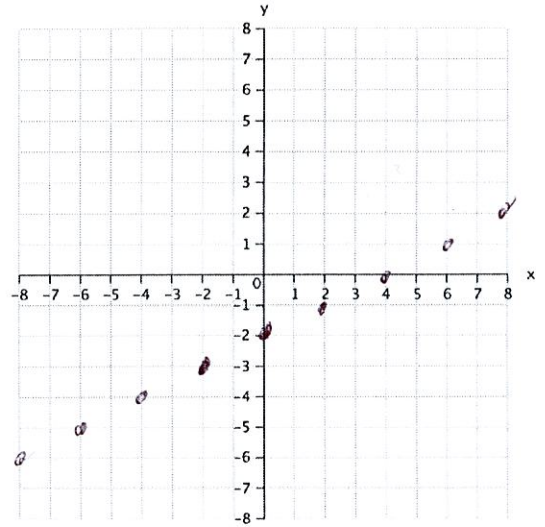
6. Thomas has been working to save money and wants to have an equation to model the amount of money in his bank account. He has been depositing \$200 a month consistently, he doesn't remember how much money he deposited initially, however on his last statement he saw that his account has been open for 8 months and currently has \$2000 in it. Create an equation for Thomas.

$(8, 2000)$
 $y - 2000 = 200(x - 8)$

7. Graph $y = -2x + 4$



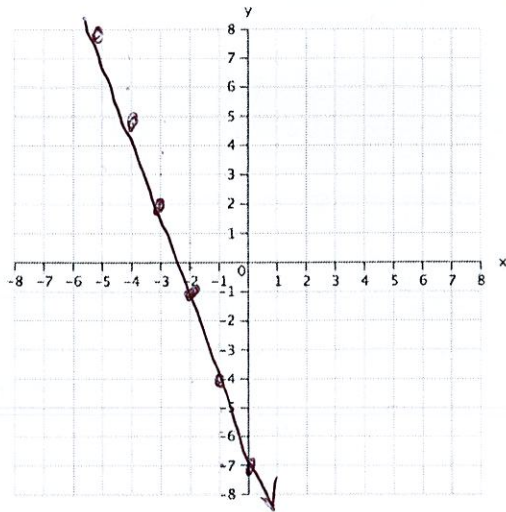
8. Graph $y = \frac{1}{2}x - 2$



9. Graph the following equation.

$y + 1 = -3(x + 2)$

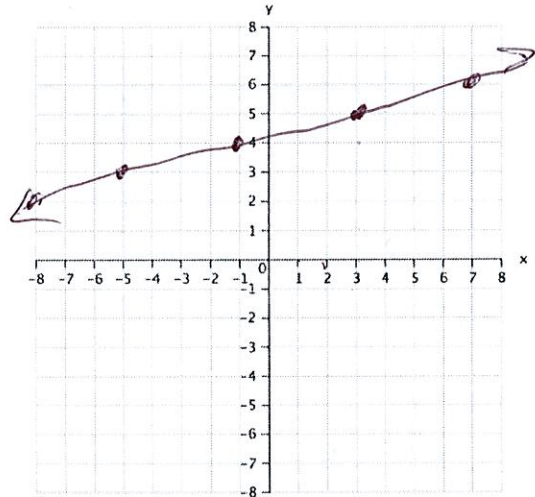
$(-2, -1)$



10. Graph the following equation.

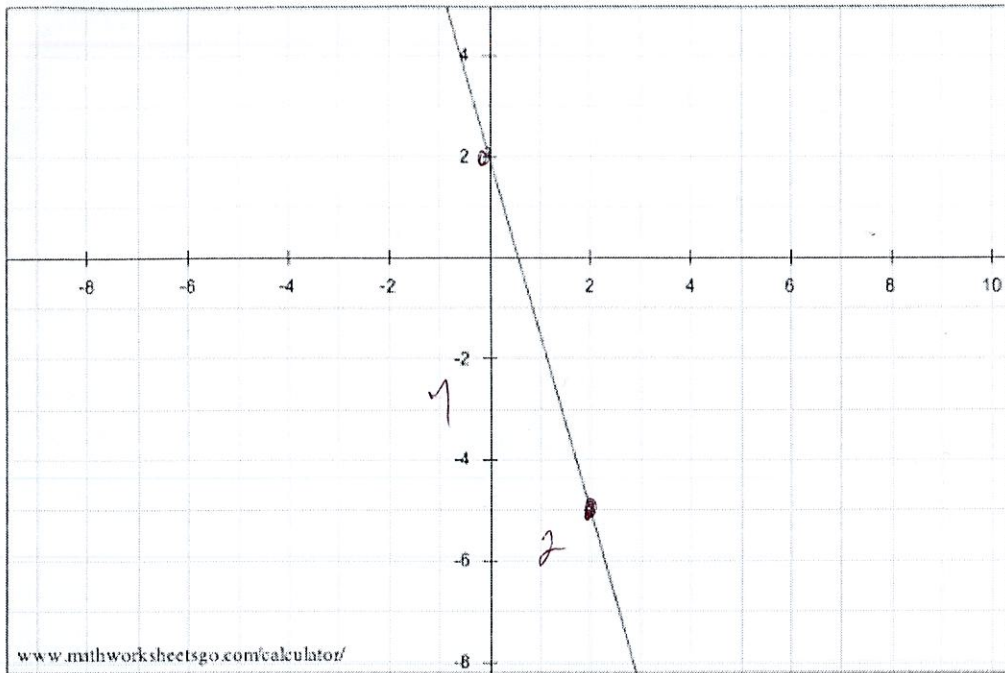
$y - 5 = \frac{1}{4}(x - 3)$

$(3, 5)$



11. Write the equation of the line graphed below.

$y = \frac{1}{2}x + 2$



Simplify.

12. $3x^{-3} \cdot 4x^{-2}$

$12x^{-5} = \frac{12}{x^5}$

13. $(-2x^{-4}y^{-3})^3$

$-8x^{-12}y^{-9}$
 $x^{12}y^9$

14. $\frac{4xy^3z}{2x^3yz}$

$\frac{2y^2}{x^2}$

15. $-1200^0 =$

16. Which equation matches the table?

X	0	1	2	3	4	5
y	4	8	16	32	64	128

$y = a \cdot b^x$
 starting function
 growth

A. $y = x + 4$

B. $y = 4(2)^x$

C. $y = 2x + 1$

D. $y = 2(4)^x$

Decide whether the word problem represents a linear or exponential function. Circle either linear or exponential. Then, **write the function formula.**

17. "A library has 18000 books, and is losing 200 books each year." Linear or exponential?

$y = 18000 - 200x$

18. "A bank account starts with \$20000. Every month, the amount of money in the account is halved." Linear or exponential? $y = 20000 \cdot \frac{1}{2}^x$